

09/841,156

2/28/07

2/28/2007 10:21:15 AM

2/28/2007 10:40:11 AM

[File 2] INSPEC 1898-2007/Feb W3

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Set	Items	Description
S1	131532	S (LES OR LED? ? OR LIGHT(2N) (EMIT?????? OR EMISS??????) OR OLED?? OR EL? ? OR ELECTROLUM? OR (LIGHT) () (EMIT?????? OR EMISS?????) OR VCSEL?? OR HBLED???)
S2	6184	CC=B4260 FROM 2 ÈElectroluminescent devices
S3	21558	'LIGHT EMITTING DEVICES' OR 'LIGHT EMITTING DIODES' OR 'LUMINESCENT DEVICES' OR CC='B4260' FROM 2
S4	132716	S S1:S3
S5	1813	S (RED)(5N)S1
S6	4336	S RED AND S1
S7	2105	S GREEN(5N)S1
S8	4136	S GREEN AND S1
S9	3259	S BLUE(5N)S1
S10	5344	S BLUE AND S1
S11	747	S (S5 OR S6) AND (S7 OR S8) AND (S9 OR S10)
S12	226	S S5 AND S7 AND S9
S13	28223	'OPTICAL FILTERS' OR 'COLOR FILTERS' OR 'COLOUR FILTERS' OR 'LIGHT FILTERS' OR CC='B4190F' FROM 2
S14	15332	S (OPTICAL()FILTER? ? OR LIGHT()FILTER? ? OR COLOUR??()FILTER? ? OR COLOR??()FILTER? ?)
S15	95	S RED(5N)S14
S16	572	S RED AND S14
S17	77	S GREEN(5N)S14
S18	447	S GREEN AND S14
S19	77	S BLUE(5N)S14
S20	461	S BLUE AND S14
S21	263	S (S15 OR S16) AND (S17 OR S18) AND (S19 OR S20)
S22	9	S S12 AND S21
S23	758	S S4 AND RED AND GREEN AND BLUE
S24	36	S S23 AND (S13:S14)
S25	27	S S24 NOT S22
S26	36	S S22 OR S25
S27	22	S S26 NOT S26/2001-2007
S28	41	S S23 AND FILTER??
S29	24	S S28 NOT S27
S30	13	S S29 NOT S29/2001-2007



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### Recent Search Queries

		Results
#1	((led or (light <near/3> emitting) or el or luminesc*) <and> (green) <and> (red) <and> (blue) <and> (substrate* or film*) <in>pdfdata	1076
#2	((((led or (light <near/3> emitting) or el or luminesc*) <and> (green) <and> (red) <and> (blue) <and> (substrate* or film*)) <in>pdfdata) <and> (pyr >= 1980 <and> pyr <= 2000)	484
#3	((((led or (light <near/3> emitting) or el or luminesc*) <and> (green) <and> (red) <and> (blue) <and> (substrate* or film*)) <in>pdfdata) <and> (pyr >= 1980 <and> pyr <= 2000)	484
#4	((((led or (light <near/3> emitting) or el or luminesc*) <and> (green) <and> (red) <and> (blue) <and> (substrate* or film*)) <in>pdfdata) <and> (pyr >= 1980 <and> pyr <= 2000)	484
#5	((((led or (light <near/3> emitting) or el or luminesc*) <and> (green) <and> (red) <and> (blue) <and> (filter*) and (substrate* or film* or sheet*)) <in>pdfdata) <and> (pyr >= 1980 <and> pyr <= 2000)	285
#6	((((led or (light <near/3> emitting) or el or luminesc*) <and> (green) <and> (red) <and> (blue) <and> (filter*) and (substrate* or film* or sheet*)) <in>pdfdata) <and> (pyr >= 1980 <and> pyr <= 2000)	285
#7	((led or (light <near/3> emitting) or el or luminesc* or lcd or electrolumines*) <and> (green) <and> (red) <and> (blue) <and> (color* <near/2> filter*)) <in>pdfdata	260
#8	((((led or (light <near/3> emitting) or el or luminesc* or lcd or electrolumines*) <and> (green) <and> (red) <and> (blue) <and> (color* <near/2> filter*)) <in>pdfdata) <and> (pyr >= 1980 <and> pyr <= 2000)	108
#9	((((led or (light <near/3> emitting) or el or luminesc* or lcd or electrolumines*) <and> (green) <and> (red) <and> (blue) <and> (color* <near/2> filter*)) <in>pdfdata) <and> (pyr >= 1980 <and> pyr <= 2000)	108
#10	((((led or (light <near/3> emitting) or el or luminesc* or lcd or electrolumines*) <and> (green) <and> (red) <and> (blue) <and> (color* <near/2> filter*)) <in>pdfdata) <and> (pyr >= 1980 <and> pyr <= 2000)	108
	((led or (light <near/3> emitting) or el or luminesc* or lcd or electrolumines*) <and> (green) <and> (red) <and> (blue) <and>	

- #11 (color\* <near/2> filter\*)<in>pdfdata) <and> (pyr >= 1980 <and>  
pyr <= 2000) 108
- #12 (((led or (light <near/3> emitting) or el or luminesc\* or lcd or  
electrolumines\*) <and> (green) <and> (red) <and> (blue) <and>  
(color\* <near/2> filter\*)<in>pdfdata) <and> (pyr >= 1980 <and>  
pyr <= 2000) 108



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 Journal sources  Preferred Web sources  Other Web sources  Exact phrase
Searched for:: :All of the words:(**green**) AND (**red**) AND (**blue**) AND ((**LED OR LEDS OR light AND emitting OR EL OR LCD**) AFound:: :12,434 total | 0 journal results | [12,434 preferred web results](#) | 0 other web results

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Did you mean?  
[green led blue \(\(LE  
leads OR light emiss  
OR EL OR LCD\) \(colc  
filter\\*\)\)](#)

1. [Color display device with phosphor regions for emitting red, blue and green light through red-blue color-filler layers and apertures in a black-matrix layer](#)

**Van Doorn, Arie R. / Van Melis, Godefridus P., UNITED STATES PATENT AND TRADEMARK OFFICE GRANTED PATENT, Aug 1999**

A **color** display device for **emitting**, in operation, **red**, **blue** and **green light** having a substrate provided with a black matrix and only **blue** and **red color filter** layers.

**Full text available at patent office. For more in-depth searching go to LexisNexis**  
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Refine your searc  
using these keyw  
found in the resul  
active layer  
[blue-green](#)

2. [Light emitting diode emitting red, green and blue light](#)

**Chen, Hsing, UNITED STATES PATENT AND TRADEMARK OFFICE GRANTED PATENT, Sep 1999**

...embodiment are formed by **light** reflective materials as gold...exhibit dual function of **light** reflection and electrode. By such structure the object of **emitting light** from back surface is achieved...three ultra violet **light LEDs** associated with a R,G,B three...form a three primary **color LED**, in other words, a basic...wherein the excited R,G,B three **color light** emits out of the front...converting layer 13 for obtaining **red** and **green** lights as the last result...to the **light** excited by a **blue light** chip may be emitted...

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[conductive](#)  
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[electroluminescent c](#)  
[emit light](#)  
[gallium nitride](#)  
[led display](#)  
[light beams](#)  
[luminance](#)  
[photosensitive](#)  
[primary colors](#)  
[semiconductor layer](#)  
[silver halide](#)

3. [IMAGE DISPLAY AND LIGHT-EMITTING DEVICE](#)

**NAGAI, Haruhiko / KAMIZAWA, Sadaomi / NISHINO, Ko, EUROPEAN PATENT APPLICATION, Mar 2000**

...applying monochrome laser **light** sources LR, LG, and LB for...corresponding to the primary **color red**. The **red** monochrome beam...liquid crystal matrix screen (**LCD**). After passing through an...the **red** beam FMR. Then, the **blue** beam FMB passes through a...Namely, these operations of the **blue** beam FMB are the same as operations...corresponding element for the **red** beam FMR. The **blue** beam FMB goes into the dichroic...corresponding to the primary **color green**. The **green** monochrome beam...

Or refine using:

All of the words

**Full text available at patent office. For more in-depth searching go to LexisNexis**  
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[Blue Led Light at](#)

## EAST Search History

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	24	"5661371"	USPAT; EPO; JPO; DERWENT	OR	ON	2007/02/28 12:41
L2	58	("3807037"   "3869646"   "3904924"   "3947842"   "3972040"   "4127792"   "4137481"   "4143297"   "4266223"   "4339514"   "4399015"   "4409724"   "4416514"   "4470667"   "4600274"   "4610509"   "4653862"   "4716403"   "4717606"   "4786964"   "4797667"   "4808501"   "4852032"   "4886343"   "4907862"   "4917465"   "4929884"   "4977350"   "4980308"   "5032007"   "5053765"   "5093738"   "5099345"   "5206749"   "5258320"   "5317263").PN. OR ("5661371"). URPN.	US-PGPUB; USPAT; USOCR	OR	ON	2007/02/28 12:41

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**Web**Results 1 - 10 of about 296,000 for **light emitting adjacent blue green red filter**. (0.20 seconds)**Non-light-emitting liquid crystal color display device - Patent ...**

The plurality of non-light-emitting picture element ... 7, the transmittance of the green filter is lower than blue and red filters ...

[www.freepatentsonline.com/4642619.html](http://www.freepatentsonline.com/4642619.html) - 30k - [Cached](#) - [Similar pages](#)

**Color filter system for light emitting display panels - Patent 5661371**

an array of color filter elements located adjacent to the emissive material, ... The three colors can be, for example, blue, green and red or yellow, ...

[www.freepatentsonline.com/5661371.html](http://www.freepatentsonline.com/5661371.html) - 155k - [Cached](#) - [Similar pages](#)

**[PDF] Reduction in Power Consumption for Full-Color Active Matrix ...**

File Format: PDF/Adobe Acrobat

The active matrix organic light-emitting diode (AMOLED) is expected to serve as next ... of red, green, and blue color filters, an additional white- ...

[jap.ipap.jp/link?JJAP/45/L947/](http://jap.ipap.jp/link?JJAP/45/L947/) - [Similar pages](#)

**[PDF] New Color Filter for Light-Emitting Diode Back Light**

File Format: PDF/Adobe Acrobat

LED back light and new color filter (CF) successfully realizes the color gamut with ... Blue-LEDs. Green-LEDs. Red-LEDs. F10, arb. units. Fig. 1. Emitting ...

[jjap.ipap.jp/link?JJAP/42/1637/](http://jap.ipap.jp/link?JJAP/42/1637/) - [Similar pages](#)

**Cambridge Display Technology - Your Partner in Light Emitting Polymers**

Full colour displays typically use groups of three adjacent pixels emitting red, green and blue light. Although the green and red polymers currently ...

[www.cdtltd.co.uk/technology/36.asp](http://www.cdtltd.co.uk/technology/36.asp) - 20k - [Cached](#) - [Similar pages](#)

**Microdisplays based upon organic light-emitting diodes**

Typically, color is provided by sequential illumination with light from red, green, and blue light-emitting diodes, at a frequency of 180 Hz or higher [3]. ...

[www.research.ibm.com/journal/rd/451/howard.html](http://www.research.ibm.com/journal/rd/451/howard.html) - 69k - [Cached](#) - [Similar pages](#)

**Efficient blue-green and white light-emitting electrochemical ...**

Efficient blue-green polymer light-emitting electrochemical cells, based on poly[9 ... B.

White light and white generated R-G-B (red-green-blue) color LECs ...

[link.aip.org/link/?JAP/81/3294/1](http://link.aip.org/link/?JAP/81/3294/1) - [Similar pages](#)

**Controlled Shift in Emission Wavelength from Patterned Porous ...**

P. Schmuki, L.E. Erickson, and D.J. Lockwood, "Light Emitting Micropatterns of ... (b)

Change in red, green, blue components of the PL measured from each ...

[link.aip.org/link/?JESOAN/152/D173/1](http://link.aip.org/link/?JESOAN/152/D173/1) - [Similar pages](#)

**[doc] Demonstrating the style for the Journal of Physics: Conference series**

File Format: Microsoft Word - [View as HTML](#)

Fluorescence Lifetime Imaging Using Light Emitting Diodes ... these devices consist of four adjacent LED chips that emit in the red, green and blue spectral ...

[www.photon06.org/Photonics%20and%20imaging%20in%20biology%20and%20medicine%201%20Tues%205%20Sept%202011.30\(...](http://www.photon06.org/Photonics%20and%20imaging%20in%20biology%20and%20medicine%201%20Tues%205%20Sept%202011.30(...) - [Similar pages](#)

**Management of singlet and triplet excitons for efficient white ...**

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## Web

Results 1 - 10 of about 142 for **"color filter arrays" blue green red "light emitting"**. (0.34 seconds)

### Method for manufacturing CMOS image sensor - Patent 7163832

The method of claim 1, comprising patterning **blue**, **red**, and **green** layers to ... an overcoating layer guide 107 is formed between the **color filter arrays** 110 ...  
[www.freepatentsonline.com/7163832.html](http://www.freepatentsonline.com/7163832.html) - 27k - [Cached](#) - [Similar pages](#)

### Color filter array with blue elements - Patent 20060232668

Typically, the colors represented in a CFA may be **red**, **blue** and **green**, and the colored ... Imager 316 may include one or more **color filter arrays** 10. ...  
[www.freepatentsonline.com/20060232668.html](http://www.freepatentsonline.com/20060232668.html) - 37k - [Cached](#) - [Similar pages](#)

### [PDF] 4 0 . 1 : Active Matrix Low Temperature Poly ...

File Format: PDF/Adobe Acrobat - [View as HTML](#)  
traditional **color filter arrays** with white OLED structures [3], b) ... achieved by optimizing the performance of **red**, **green** and **blue** ...  
[www.kodak.com/US/plugins/acrobat/en/corp/display/SID2000.pdf](http://www.kodak.com/US/plugins/acrobat/en/corp/display/SID2000.pdf) - [Similar pages](#)

### Society for Information Display News Stories February 2002

Instead of filtering incoming light into **red**, **green**, and **blue** which then impinge ... rights to manufacture and supply **color-filter arrays** for electronic-ink ...  
[206.24.6.114/news/archive/newsstory0202.html](http://206.24.6.114/news/archive/newsstory0202.html) - 31k - [Cached](#) - [Similar pages](#)

### [PDF] FOURIER DOMAIN DISPLAY COLOR FILTER ARRAY DESIGN Keigo Hirakawa ...

File Format: PDF/Adobe Acrobat - [View as HTML](#)  
**red**, **green**, **blue** plus a fourth color in similar  $2 \times 4$  lattice pattern ... [6] R. Lukac and K. N. Plataniotis, **Color filter arrays**: Design and ...  
[www.accidentalmark.com/research/papers/Hirakawa07DisplayCFAICIP.pdf](http://www.accidentalmark.com/research/papers/Hirakawa07DisplayCFAICIP.pdf) - [Similar pages](#)

### Smarthouse - LCD

There are three separate color (**red**, **green**, and **blue**) sub-pixels in every ... a powerful epoxy bond holds the **color filter arrays** and TFT glass together, ...  
[www.smarthouse.com.au/TVs\\_And\\_Large\\_Display/LCD?article=/TVs%20And%20Large%20Display/LCD/T6B2U2S4&page=4](http://www.smarthouse.com.au/TVs_And_Large_Display/LCD?article=/TVs%20And%20Large%20Display/LCD/T6B2U2S4&page=4) - 28k - [Cached](#) - [Similar pages](#)

### Stacked OLED display having improved efficiency - US Patent 6987355

It is has been proposed to provide an OLED display having pixels with differently sized **red**, **green** and **blue light emitting** elements, wherein the relative ...  
[www.patentstorm.us/patents/6987355-description.html](http://www.patentstorm.us/patents/6987355-description.html) - 38k - [Cached](#) - [Similar pages](#)

### Method for selective transfer of a color organic layer - US Patent ...

In a full color **light emitting** electroluminescent (EL) device, **red**, **green**, or **blue** color **light emitting** pixels or subpixels are formed by pixel-selective ...  
[www.patentstorm.us/patents/5851709-description.html](http://www.patentstorm.us/patents/5851709-description.html) - 50k - [Cached](#) - [Similar pages](#)

### Fastec Imaging - Glossary Of Terms

**Color Filter Arrays** (CFA) are more cost affective because they only use one ... There is some combination of **Red**, **Blue** and **Green** or a complimentary color ...  
[www.fastecimaging.com/glossary.html](http://www.fastecimaging.com/glossary.html) - 47k - [Cached](#) - [Similar pages](#)

### Seeking clarity: Image sensors peer into a blurry future - 9/16 ...

The predominant Bayer pattern employs the RGB primary-color set and contains twice as

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## Web

Results 1 - 10 of about 155 for "**color filter arrays**" **blue green red "led"**. (0.38 seconds)

### [\[PDF\] A CCD color signal separation IC for single-chip color imagers](#)

File Format: PDF/Adobe Acrobat  
with **color filter arrays** is described. The device simplifies peripheral ... crosstalk between  
**green and red or green and blue**, which ...  
[ieeexplore.ieee.org/iel5/4/22594/01052085.pdf?arnumber=1052085](http://ieeexplore.ieee.org/iel5/4/22594/01052085.pdf?arnumber=1052085) - [Similar pages](#)

### [Color filter array with \*\*blue\*\* elements - Patent 20060232668](#)

Typically, the colors represented in a CFA may be **red**, **blue** and **green**, and the colored ...  
Imager 316 may include one or more **color filter arrays** 10. ...  
[www.freepatentsonline.com/20060232668.html](http://www.freepatentsonline.com/20060232668.html) - 37k - [Cached](#) - [Similar pages](#)

### [Generating digitized images in silver halide - Patent 6370337](#)

The Paget process is unique in that a matrix of **red**, **green**, and **blue** pixels is used as ... In  
one embodiment, the cyan dye absorbs the light from a **red LED**, ...  
[www.freepatentsonline.com/6370337.html](http://www.freepatentsonline.com/6370337.html) - 45k - [Cached](#) - [Similar pages](#)

### [bayer filtering](#)

This approach uses **color filter arrays** (CFAs) in order to capture RGB images. ... The  
Bayer pattern has twice as many **green** pixels as **red** or **blue** and takes ...  
[www.coreco.com/Web/wbtools3.nsf/0/87fce126f109ea3a05256c7100591c9a?OpenDocument](http://www.coreco.com/Web/wbtools3.nsf/0/87fce126f109ea3a05256c7100591c9a?OpenDocument) - 14k - [Cached](#) - [Similar pages](#)

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Instead of filtering incoming light into **red**, **green**, and **blue** which then impinge ... rights to  
manufacture and supply **color-filter arrays** for electronic-ink ...  
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### [Avago Technologies - Press Release](#)

The photodiode arrays convert the **red**, **green** and **blue** light components into ... The color  
sensor features uniform **color filter arrays** throughout the ...  
[www.avagotech.com/about/press/press-view.jsp?id=2341](http://www.avagotech.com/about/press/press-view.jsp?id=2341) - 35k - [Cached](#) - [Similar pages](#)

### [Seeking clarity: Image sensors peer into a blurry future - 9/16 ...](#)

The predominant Bayer pattern employs the RGB primary-color set and contains twice as  
many **green** filters as either **blue** or **red** ones, reflecting the fact ...  
[www.edn.com/article/CA450596.html](http://www.edn.com/article/CA450596.html) - [Similar pages](#)

### [Scanner illumination - US Patent 5982957](#)

These LED types for the **blue**, **green** and **red** color channels have the peaks 200, 202, 204,  
206, 208, 210, 212, 214, 216, 218 and 220 shown particularly in FIG ...  
[www.patentstorm.us/patents/5982957-description.html](http://www.patentstorm.us/patents/5982957-description.html) - 64k - [Cached](#) - [Similar pages](#)

### [Focus on Photonics and Imaging - Physics Today October 2005](#)

The co-site sampling arrangement of the CCDs eliminates **red-green-blue** shift. ... that are  
generated by traditional sensors with **color filter arrays**. ...  
[www.physicstoday.org/vol-58/iss-10/p90.html](http://www.physicstoday.org/vol-58/iss-10/p90.html) - 28k - [Cached](#) - [Similar pages](#)

### [Agilent | Agilent Technologies introduces industry's smallest ...](#)

... the color point of **red**, **green** and **blue** (RGB) LED backlighting. ... It features uniform  
**color filter arrays** throughout the photodiode active area, ...

27/9/14 DIALOG

INSPEC

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05922178 INSPEC Abstract Number: B9505-4260D-016

Title: Multilayer white light-emitting organic electroluminescent device

Author Kido, J.; Kimura, M.; Nagai, K.

Author Affiliation: Dept. of Mater. Sci. & Eng., Yamagata Univ., Yonezawa, Japan

Journal: Science vol.267, no.5202 p. 1332-4

Publication Date: 3 March 1995 Country of Publication: USA

CODEN: SCIEAS ISSN: 0036-8075

U.S. Copyright Clearance Center Code: 0036-8075/95/\$1.00+.10

Language: English Document Type: Journal Paper (JP)

**Abstract:** Organic electroluminescent devices are light-emitting diodes in which the active materials consist entirely of organic materials. Here, the fabrication of a white light-emitting organic electroluminescent device made from vacuum-deposited organic thin films is reported. In this device, three emitter layers with different carrier transport properties, each emitting blue, green, or red light, are used to generate white light. Bright white light, over 2000 candelas per square meter, nearly as bright as a fluorescent lamp, was successfully obtained at low drive voltages such as 15 to 16 volts. The applications of such a device include paper-thin light sources, which are particularly useful for places that require lightweight illumination devices, such as in aircraft and space shuttles. Other uses are a backlight for liquid crystal display as well as full color displays, achieved by combining the emitters with micropatterned color filters. (22 Refs)

**Descriptors:** flat panel displays; LED displays; light emitting diodes; organic compounds; vacuum deposited coatings  
**Identifiers:** organic electroluminescent device; light-emitting diodes; white light emission; organic active materials; vacuum-deposited organic thin films; carrier transport properties; drive voltages; paper-thin light sources; lightweight illumination devices; backlight; micropatterned color filters; flat panel displays; 15 to 16 V  
**Class Codes:** B4260D (Light emitting diodes); B7260 (Display technology and systems); B0520F (Vapour deposition)  
**Numerical Indexing:** voltage 1.5E+01 to 1.6E+01 V

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09/841, 156

2/28/07

27/9/13 DIALOG

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06134502 INSPEC Abstract Number: A9602-7860F-008, B9601-4220M-003

Title: Electroluminescent properties of SrSe:Ce/ZnS:Mn multilayered thin films with white light emission

Author Nakanishi, Y.; Takahashi, M.; Hatanaka, Y.

Author Affiliation: Res. Inst. of Electron., Shizuoka Univ., Hamamatsu, Japan  
Journal: Bulletin of the Research Institute of Electronics, Shizuoka

University vol.30, no.1 p. 47-54

Publication Date: 1995 Country of Publication: Japan

CODEN: SDDHDM ISSN: 0286-3383

Language: Japanese Document Type: Journal Paper (JP)

**Abstract:** White light emitting SrSe:Ce/ZnS:Mn multilayered thin-film EL devices, in which SrSe:Ce shows blue emission with good chromaticity, have been prepared in view of the development of a full color EL display by using R, G and B color filters. The SrSe:Ce and ZnS:Mn films are prepared by multi-source deposition and electron beam evaporation techniques, respectively. Luminance of white EL of about 280 cd/m<sup>2</sup> was obtained by annealing the films at 400 degrees C for 1 hour after the deposition of both SrSe:Ce and ZnS:Mn films. R, G and B emissions were obtained by filtering through R, G and B color filters. The device showed red and green emissions with nearly the same chromaticity as those of a CRT. Even though the chromaticity of blue emission is closer to the CIE color coordinate of the standard CRT than that of SrS:Ce thin-film EL devices, it needs further improvement. ( 17 Refs)

**Descriptors:** annealing; cerium; electroluminescence; electron beam deposition; manganese; optical films; phosphors; strontium compounds; zinc compounds

**Identifiers:** electroluminescence; white light emission; blue emission; chromaticity; color EL display; color filters; multi-source deposition; electron beam evaporation; annealing; green emission; red emission;

SrSe:Ce/ZnS:Mn multilayered thin-film EL devices; 400 C; SrSe:Ce-ZnS:Mn

**Class Codes:** A7860F (Electroluminescence); A7865J (Optical properties of nonmetallic thin films); B4220M (Phosphors)

**Chemical Indexing:**

SrSe:Ce-ZnS:Mn int - SrSe:Ce int - ZnS:Mn int - SrSe int - ZnS int - Ce int - Mn int - Se int - Sr int - Zn int - S int - SrSe:Ce ss - ZnS:Mn ss - Ce ss - Mn ss - Se ss - Sr ss - Zn ss - S ss - SrSe bin - ZnS bin - Se bin - Sr bin - Zn bin - S bin - Ce el - Mn el - Ce dop - Mn dop (Elements - 2,1,3,2,1,3,6)

**Numerical Indexing:** temperature 6.73E+02 K

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